

How do wealth and income affect individuals' attitudes towards redistribution and taxation?

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Abstract

How do wealth and income influence individual attitudes towards taxation and redistribution? We conduct a laboratory experiment in which we introduce random variation in participants' earned income and endowed wealth, as well as in the information that they receive about their place in the distribution of income and wealth, and examine how participants choose to tax each other's income and wealth. We find strong evidence that exogenously higher income produces lower income tax preferences and exogenously higher wealth produces lower wealth tax preferences. However, there is minimal 'bleed-over' from income to wealth tax preferences or wealth to income tax preferences. Finally, we find that providing information about where people fit in the separate income and wealth distributions, as opposed to just their aggregate resources, heightens the importance of participants' experimental income for income tax preferences but has the reverse effect for their experimental wealth endowment on wealth tax preferences.

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1 Introduction

Generations of political economists have developed and tested models about attitudes towards taxation and the response of citizens to rising inequality. Yet attention has largely been focused on individual *incomes* and *income* inequality. The boom in global housing prices and, with more volatility, stock markets over the past few decades, suggests that a single-minded focusing on earnings from the labor market may blind us to the role of individual wealth and aggregate wealth inequality in shaping preferences over redistribution and taxation (Ansell, 2019). Indeed, recent political debates in the United States of America have been over the viability of a wealth tax on the super-wealthy, as well as over property and land taxation more generally. The lack of progress in a targeted wealth tax, as well as the general decline in inheritance taxes cross-nationally since the 1960s, suggests that even though wealth is far more unequally distributed than income (Pfeffer and Waitkus, 2021), it may be substantially more challenging to tax.

We lack the rigorous micro-data on how people respond to changes in their income and wealth in terms of views about taxation that might help us address the relative challenges of taxing income versus wealth. This paper responds to this gap by developing a model of income and wealth tax preferences, moderated by the information about inequality people receive, and then experimentally testing these hypotheses in an online lab experiment run on over three hundred participants in the United Kingdom.

We argue that individuals will respond separately to their individual income and wealth in terms of their income and wealth tax preferences - rather than their income ‘bleeding over’ to their wealth tax preferences and vice versa. We also argue that providing individuals with information not just on where they stand in the aggregate income plus wealth distribution but in each distribution separately, will intensify the relationship between their income and income tax preferences, and individual wealth and wealth tax preferences.

We develop a (pre-registered) online lab experiment that tests the expectations of the theory using an online laboratory run by the Centre for Experimental Social Sciences. Individuals received an email invitation several days before participating telling that they had a (randomized) wealth endowment that would be invested for them (with negative, moderately positive or highly positive returns). When they joined the experiment they would then participate in a task involving moving sliders to particular numbers for which they would earn income. The wage they received per slider was also randomized and they were paid according to both this wage and their relative performance. All participants were in simultaneous groups of around twenty participants and at the end of the slider task, all participants were asked to vote on taxing the slider incomes and invested wealth endowments of the group.

Participants were randomly split into two groups when choosing their preferred income and wealth tax levels: some saw only how they stood compared to the others in their session in terms of total income and wealth, whereas others saw where they stood in the wealth and income groups separately. In all, we conducted sixteen sessions and had a total of 327 participants.

In our results we find strong support for an Earnings Effect - people randomly given the higher wage rate preferred income tax rates about fifteen percent points lower than those with the lower tax rate. 'High performers' on the slider task also preferred lower income tax rates. However, the level of invested wealth the participant received had a minimal or zero effect on their income tax preferences. We also find strong support for an Endowment Effect - those participants whose invested wealth was (randomly) higher also favored substantially lower wealth taxes. There was no effect of income from the slider task on preferences over wealth taxation and preferred wealth taxation rates were on aggregate moderately higher than preferred income taxation rates. Participants were especially responsive to how their initial wealth endowment had fared when invested - with those with a highly positive shock very unsupportive of wealth taxation and those with a negative shock much more supportive.

In terms of the expected Information Effects, we find strong support for our conjecture for earnings but the reverse for wealth endowments. Those participants who knew where they stood in the separate income and wealth distributions had a stronger relationship between individual income and income tax preferences than those who only saw the combined distribution. By contrast for wealth, extra information actually weakened the connection between individual wealth and wealth taxation preferences. This potentially suggests that redistributive preferences are heightened when people exert effort - as in the slider task - and know how they performed in that relative to others, but weakened when people receive wealth through luck and learn how they did compared to the group.

In all, this paper suggests that individuals may be more willing to consider higher taxes on wealth than on income, particularly when forced to consider both at the same time, despite common survey findings that inheritance and wealth taxation is unpopular in the abstract. The information findings suggest that where people know that their relative position is attributable to luck rather than effort, the more fortunate may be willing to countenance higher rates of taxation.

2 Existing Literature

HERE IS WHERE A LITERATURE REVIEW WOULD LIVE!

3 Theoretical framework

What determines individual preferences for the taxation of personal income and wealth? Does information on one's place in the income and wealth distributions influence redistributive preferences? To explore these questions, we set out a simple model of individual tax preferences for participants with different endowments, earned income, and information treatments.

In the choice environment considered here, individual gross gains are made up out of the received endowment and the earnings from the slider task. Net gains follow the application of the income and wealth tax rates. Individual ex-post utility can be defined over known returns from the endowment and realised earnings. Individual expected utility incorporates the lottery over the endowment as well as expected earnings, all adjusted to reflect the prevailing tax rates. Individuals choose their preferred income and wealth taxes respectively. We speculate that their tax choice will depend on (a) their own level of earnings or wealth from the experiment and (b) the information they have about how they compare to the separate wealth and income distributions (information treatment), or simply the combined distribution (no information treatment). We detail below how the basic model.

3.1 Preferences

Subjects have a separable utility function consisting of both their utility from earnings, $u(c_{e,i})$, which is defined over their post-tax income from earnings ($c_{e,i}$), and utility from endowments, $u(c_{w,i})$, defined over post-tax endowment ($c_{w,i}$):

$$V[u(c_{e,i}), u(c_{w,i})] = u(c_{e,i}) + u(c_{w,i})$$

Let $f_e(n_i) = n_i \underline{y}$ be the earnings function and $f_w(k_i) = k_i \underline{y}$ is the endowment function, where $n_i \in \{1, 2, \dots, ng\}$ and $k_i \in \{1, 2, \dots, ng\}$ denotes the rank of the subject in the earnings and endowment distribution, with 1 being the smallest rank and n being the highest. \underline{y} is the minimum payment that gets multiplied with the rank and then distributed to the subjects.

According to this formulation the average wealth and income will be defined as:

$$\bar{y} = \frac{\sum_{j=1}^n j}{n} \underline{y} \tag{1}$$

Let us now define $u(c_{e,i})$ and $u(c_{w,i})$:

$$u^I(c_{e,i}) = (1 - t_e)n_i\underline{y} + t_e\bar{y} - \frac{\tau}{2}t_e^2$$

$$u^I(c_{w,i}) = (1 - t_w)k_i\underline{y} + t_w\bar{y} - \alpha\frac{\tau}{2}t_w^2$$

where t_e and t_w are the tax rates applied to earnings and wealth and $\frac{\tau}{2}t_e^2$ and $\frac{\tau}{2}t_w^2$ are the loss of utility from income and wealth taxation, respectively. We also allow for the possibility that, for some individuals, taxation of wealth can be psychologically more/or less costly than taxation of earnings. We capture this by adjusting the quadratic loss function of wealth taxation such that $\alpha > 1$ implies a relative distaste for taxing wealth and $\alpha < 1$ a relative distaste for taxing earnings.

Under the information treatment, the utility function is:

$$V^I[u^I(c_{e,i}), u^I(c_{w,i})] = \left[(1 - t_e)n_i\underline{y} + t_e\bar{y} - \frac{\tau}{2}t_e^2 \right] + \left[(1 - t_w)k_i\underline{y} + t_w\bar{y} - \alpha\frac{\tau}{2}t_w^2 \right]$$

Taxes are set separately on earnings t_e and on wealth t_w . Taxes produce a small quadratic loss if they are raised too high ($\frac{\tau}{2}t_e^2$ and $\alpha\frac{\tau}{2}t_w^2$). This reduces the incentive to fully tax away all the resources of other players and permits an interior optimum tax rate.

3.2 Model Results

In the full information case we expect individuals to choose tax rates on earnings t_e and wealth t_w that maximize utility. Under the information treatment, individuals know their rank in the earnings task, n_i , and their rank in the endowment distribution, k_i . This produces first order conditions:

$$t_e = \begin{cases} \frac{\bar{y} - n_i\underline{y}}{\tau} & \bar{y} - n_i\underline{y} > 0 \\ 0 & \text{otherwise} \end{cases}$$

$$t_w = \begin{cases} \frac{\bar{y} - k_i\underline{y}}{\alpha\tau} & \bar{y} - k_i\underline{y} > 0 \\ 0 & \text{otherwise} \end{cases}$$

In turn this produces some simple comparative statics: $\partial t_e / \partial n_i < 0$, $\partial t_e / \partial \bar{y} < 0$, $\partial t_w / \partial k_i < 0$, $\partial t_w / \partial \bar{y} < 0$, $\partial t_e / \partial \tau < 0$, $\partial t_w / \partial \tau < 0$.

Now, recall that, in the control treatment, the subjects only receive information on their cumulative rank as opposed to receiving information both on income rank and endowment rank. In the absence of detailed information, we assume that participants assume their rank

in both earnings and endowment are the same, denoted by m_i . Thus the utility function becomes:

$$V^N[u^N(c_{e,i}), u^N(c_{w,i})] = (1 - \alpha) \left[(1 - t_e)m_i \underline{y} + t_e \bar{y} - \frac{\tau}{2}(t_e^2) \right] + \alpha \left[(1 - t_w)m_i \underline{y} + t_w \bar{y} - \frac{\tau}{2}t_w^2 \right]$$

This produces the following outcomes:

$$t_e = \begin{cases} \frac{\bar{y} - m_i \underline{y}}{\tau} & \bar{y} - m_i \underline{y} > 0 \\ 0 & \text{otherwise} \end{cases}$$

$$t_w = \begin{cases} \frac{\bar{y} - m_i \underline{y}}{\alpha \tau} & \bar{y} - m_i \underline{y} > 0 \\ 0 & \text{otherwise} \end{cases}$$

In turn this produces some simple comparative statics: $\partial t_e / \partial m_i < 0$, $\partial t_e / \partial y < 0$, $\partial t_w / \partial m_i < 0$, $\partial t_w / \partial y < 0$, $\partial t_e / \partial \tau < 0$, $\partial t_w / \partial \tau < 0$.

Note that in this situation the direct effects of earnings and wealth parameters should be as they were in the full information example. However, the preferred tax rate should differ from the full information case depending on how disproportionately far away from m_i are n_i and k_i .

In particular, if $n_i < m_i$ then in the full information case, participants will prefer higher income taxes (all else equal) than in the no information case. If $n_i > m_i$ then in the full information case, participants will prefer lower income taxes than in the no information case. A similar logic applies to optimal tax rates on wealth: if $k_i < m_i$ then in the full information case, participants will prefer higher wealth taxes (all else equal), than in the no information case. If $k_i > m_i$ then in the full information case, participants will prefer lower wealth taxes than in the no information case.

This produces a number of expectations in terms of the information treatment and in terms of baseline fairness considerations over wealth taxation

$$\begin{aligned} t_{eI}^* - t_{eN}^* &= \frac{y}{\tau}(m_i - n_i) && \text{Information Effect I (Earnings)} \\ t_{wI}^* - t_{wN}^* &= \frac{y}{\alpha \tau}(m_i - k_i) && \text{Information Effect I (Wealth)} \\ t_{wN}^* - t_{eN}^* &= \left(\frac{1 - \alpha}{\alpha \tau} \right) (\bar{y} - m_i \underline{y}) && \text{Tax Preference Effect} \\ t_{wI}^* - t_{eI}^* &= \left(\frac{\bar{y} - k_i \underline{y}}{\alpha \tau} \right) - \left(\frac{\bar{y} - n_i \underline{y}}{\tau} \right) && \text{Tax Preference Effect \& Information Effect} \\ (t_{wI}^* - t_{eI}^*) - (t_{wN}^* - t_{eN}^*) &= \left(\frac{(1 - \alpha)m_i - k_i + \alpha n_i}{\alpha \tau} \right) && \text{Difference in Differences} \end{aligned}$$

The tax preference effect can be seen in those participants who get the *no information* treatment. If $\alpha \neq 1$ then individuals with an overall income different to the mean will

desire a different wealth tax to their earnings tax preference. Since we assume that taxes are bounded at zero, this will only apply for those with below mean incomes. For that group if $\alpha < 1$ they will desire a higher wealth tax than earnings tax, whereas if $\alpha > 1$ they will desire a lower wealth than earnings tax.

The tax preference and information combined equation shows that the difference between preferred wealth and earnings taxes in the “full information” group will depend on tax preference considerations through α and their relative wealth to the mean and earnings to the mean.

The difference in differences shows the gap between the wealth tax / earnings tax differences in the “full information” treatment as compared to the ‘no information’ treatment.

These results yield the following empirical expectations:

1. *Earnings effect*: Subjects who received the high-wage treatment will prefer lower taxes on income compared to those who received the low-wage treatment.
2. *Endowment effect*: Subjects who received the high-endowment treatment will prefer lower taxes on wealth compared to those who received the low-endowment treatment.
3. *Information effect I*: All else equal, subjects who receive the information treatment will prefer higher income taxes if $n_i < m_i$, the same income tax rate if $n_i = m_i$, a lower income tax if $n_i > m_i$.
4. *Information effect II*: All else equal, subjects who receive the information treatment will prefer higher wealth taxes if $k_i < m_i$, the same rate if $k_i = m_i$, a lower rate if $k_i > m_i$.

4 Experimental design

The objective of these experiments is to examine whether individual attitudes towards the taxation of income and wealth are affected by randomly assigned “wealth endowments”, “earned income”, and information about the position in wealth and income distribution. We randomly vary (a) the *endowment* (low / high), *earnings* (low / high),¹ and *information* about individuals’ position in the wealth and income distribution(s).

In the experiment participants accrued both “wealth” and “income”. “Wealth” was granted as an endowment and was subject to an exogenously determined return on wealth; the initially granted endowment was either 7 or 14 ECU² and could increase substantially by

¹Overall earnings depend on the exogenously varying wage and an endogenously element of effort.

²Twelve individuals received a high endowment, and the remaining twelve subjects received a low endowment, through random permutation.

around 86 percentage points, increase moderately by 14 percentage points, or decrease by around 29 percentage points. This ‘return’ on the endowment was also assigned at random.³ This means that final endowments, post investment, varied between 5 ECU ($7 - 0.714 = 5$ ECU) and 26 ECU ($14 + 1.857 = 26$ ECU).

The laboratory experiment was conducted by CESS Oxford using their online lab in accordance with the following protocol. We split the experiment into 16 separate sessions with between 17 and 29 subjects (average of 20.4 subjects) in each session and overall 327 subjects. We had initially planned for 14 sessions with slightly larger numbers in each (up to 24) in our PAP but recruitment was only effective for slightly smaller numbers per session - hence we increased the number of sessions.

Upon recruitment, subjects were informed via email that they were participating in an experiment in decision-making and that in addition to the participation fee they would be paid any additional money they accumulated during the experiment at its conclusion. They were also informed that the total payment would depend on their decisions and other participants’ decisions during the experiment.

Subjects then received a follow-up email with information on their endowments. This email informed the participants on their endowment size (low or high), that the endowment would be invested, and that they would perform a series of rewarded tasks when they came to the lab.

“***Important: As part of the experiment, you have been granted an endowment of *#endowment_size#* ECU. This endowment will be invested for you before you come to the laboratory experiment at CESS. With a 1/3 chance you will receive 29 percent less, with a 1/3 chance 14 percent more, and with a 1/3 chance 86 percent more. You will find out how your investment performed during the experiment. 1 ECU is worth *#rate#* pounds.

When you join the experiment, you will begin with your invested endowment and will have the opportunity to earn more income through a set of computer-based tasks. At the end of the experiment, you and the other participants will decide how to allocate these combined funds among yourselves. You are guaranteed *#fee#* for completing the experiment.

During the online lab sessions, for the earnings task subjects were randomly assigned to either a high- or low-wage group with low-wage individuals receiving a salary of 1 ECU and

³One third of individuals per session receive very high positive returns, another third moderate returns, and the final third experiences losses on their endowments (eight individuals in each group). These figures are rounded percentages of sevenths.

high-wage individuals receiving a salary of 2 ECU, so that half of a session’s participants earned high wages and half low wages (exactly half of the participants were placed in each group through random permutation).

Participants earned “income” by engaging in a series of tasks during the online lab sessions. Participants saw a series of “slider bars” on the screen with a peg they could move using the mouse along the bar. As the slider moved, its exact location between zero and one hundred was shown. Participants were asked to move a slider with their mouse cursor from its (randomly assigned) starting position to a randomly assigned target (any number between 0 and 100). Participants were provided with a practice period to get used to the challenge. After the practice round, subjects participated in five rounds of 60 seconds to move as many sliders as they can. In order to prevent fatigue there was a fifteen second break between each round.

The “earnings” of each participant are proportional to the number of sliders they have correctly moved to the centre (endogenous). We rank subjects based on their slider performance and group them in three equally sized groups (subjects in each group) of high-, medium, and low-performers where they receive 13, 8, or 5 ECUs, respectively. The earnings are multiplied by the experimentally assigned wage (exogenous). That means that a low-performing subject in the low-wage group earns an overall income of 5 ECU ($1 \text{ (wage)} \times 5 \text{ (effort)} = 5 \text{ ECU}$); a high-performing subject in the high-wage group, in contrast, earns an income of 26 ECU ($2 \text{ (wage)} \times 13 \text{ (effort)} = 26 \text{ ECU}$), i.e. income varies between 5 and 26 ECUs. Note, this is the same range of outcomes as with the investment in order to have comparable distributions of earnings and wealth.

At the end of the rounds of slider manipulation, the participants accordingly possessed material resources equalling their wealth (accrued through the experimentally assigned amount and the exogenously varying return on wealth) and the money they earned from the slider exercise.

The final experimental manipulation split participants into those who receive information about their own position in the wealth and earnings distribution and those who do not.

Subjects who received the information treatment were shown detailed information of both their income rank and wealth rank for the respective session. More precisely, we ranked all possible earning and endowment outcomes in six equally large groups according to the income and wealth distribution. We then showed the subject which group they fell into in that distribution. For example, a subject who ranked in the 5th group in the income distribution and 2nd in the wealth distribution (out of 6 groups, where sixth group is the highest rank) saw the following information on her screen:

Subjects in the control group did not receive information about their detailed position in

End of Effort Task

You have completed the main part of the study.

Your invested endowment is worth 8 ECU. The figure below shows how your endowment compares to the potential endowments of other participants.

Lowest  Highest

Your earnings from the slide task were 16 ECU. The figure below shows how your earnings from the task compare to the potential earnings of other participants.

Lowest  Highest

Next

Figure 1: Screenshot of the information treatment

the wealth and earnings distribution. Instead, we ranked all participants in a given session based on their combined wealth and earnings and provided subjects in the control group with information only about their ranked position in the combined earnings distribution. They saw the following information:

End of Effort Task

You have completed the main part of the study.

Your invested endowment is worth 10 ECU. Your earnings from the slider task were 5 ECU. The figure below shows how your combined endowment and earnings from the task compare to the potential combined endowment and earnings of participants.

Lowest  Highest

Next

Figure 2: Screenshot of the control treatment

Following the slider task and the revelation of information about subjects' position in the earnings distribution, the participants of each session played a voting game with other participants in which they decided on two separate tax rates, one applying to income and another that applies to wealth. Those tax rates redistributed the collective funds accordingly among all the participants. The tax rates on both income and wealth were determined by the average of the votes for the respective tax rate, i.e. wealth and income were subject to

different tax rates, and those tax rates were determined separately in each of the 16 sessions.

Before voting on a tax rate, participants were provided with the following information to guide their decision on the tax rates:

You now have the opportunity to vote on a WEALTH TAX applying to the invested endowment and an INCOME TAX applying to earnings from the slider task. You can choose any rate between 0 and 100 percent. The final tax rates chosen for the wealth tax and the income tax will be the average rates chosen across all participants. The proceeds of both wealth and income taxation will be distributed equally across all participants as a lump sum payment.

To understand how this works, imagine there are 3 individuals earning 8, 12, and 16 ECU respectively and a tax rate of 50%.

- The first participant would give up $8 \times 50\% = 4$ tokens, the second give up $12 \times 50\% = 6$ tokens and the third would give up $16 \times 50\% = 8$ tokens for a total of $4+6+8 = 18$ tokens.
- These 18 tokens would then be divided among the 3 individuals providing them an additional $18/3 = 6$ tokens each.
- As a result, the first individual will end up with $8-4+6 = 10$ tokens, the second individual will end up with $12-6+6 = 12$ tokens and the final individual will end up with $16-8+6 = 14$ tokens.

The participant then faced the following screen, where they could enter their choices:

Please choose your preferred tax rate on income from the slider task and wealth from the invested endowment.

Please enter your preferred tax rate between 0% and 100% on wealth from endowments and investments

[Text box to enter tax rates. The respondents can choose between 0 and 100.]

Please enter your preferred tax rate between 0% and 100% on earnings from the slider task

[Text box to enter tax rates. The respondents can choose between 0 and 100.]

The next screen provided subjects with information about their final earnings, the tax rate that was determined in the voting game, and how their earnings were affected by redistribution through taxes on the income and wealth. The subjects saw the following information:

The average tax rate on earnings from the slider task preferred by the participants is XX%. The average tax rate on wealth from the invested endowments preferred by the participants is XX%. Your final earnings from this experiment are XX ECU. This is XY ECU more/less than before redistribution of earnings through taxation.

Before leaving with their net payment, respondents answered a series of standard survey questions, which include demographics, political and social attitudes, and a set of standard questions about redistribution and inequality preferences.⁴

Finally, each participant received a debrief, clarifying the experiment to them and noting how their monies were calculated in full.

The appendix displays screenshots of the online experiment as it would have been seen by participants.

5 Results

In order to test the expectations developed in the theoretical section, we examine both the direct effects of the randomly assigned wage rate (*Earnings E ect*) and the randomly assigned endowment level (*Endowment E ect*), as well as the interactions between each of these material treatments and the information treatment (which gives us in turn *Information E ect I* and *Information E ect II*). Our outcome variables that are based on respondents' voting decisions over taxation in the section of the experiment where they choose their preferred levels of income (slider earnings) and wealth (invested endowment) taxation.

We use a number of operationalizations of earnings and endowments in our empirical analysis. With earnings, we begin by simply examining the direct effect of the randomized wage treatment. Since the participants' earnings are the product of their (randomized) wage rate and their (non-random) performance at the slider task, we also consider a variable we call 'Slider rank', coded from one to six, which corresponds to the six possible combinations of wage rate and slider performance (for example, a participant who received the low wage treatment and was in the bottom tertile of performers, receiving 5 ECU, is coded as one,

⁴In future iterations of the paper we intend on examining whether these preferences were impacted by the assigned treatments.

whereas a participant in the high wage treatment who was in the top tertile of performers, receiving 26 ECU, is coded as six). ‘Slider rank’ thus combines both wage and performance in one measure. Finally, we split out the wage and performance effects by examining the wage treatment and the performance tertile separately.

For the endowment variable we follow a similar logic. Recall that initially all participants are told that they have a certain endowment (high or low) and that this endowment will be invested for them. Their final endowment reflects the product of both factors. In our analyses we include a simple dummy for the randomized high (as opposed to low) endowment, this initial endowment and the a measure of the investment return the participant received (low, medium, or high) and finally an ‘endowment rank’ measure that multiplies the two and reflects their final endowment.

One potential concern is that people receiving the high wage treatment might work less hard at the slider task, knowing they will earn at least 10 ECU (a wage of 2 multiplied by the 5 ECU payment for low performers). A similar, if more indirect, argument could be made for the endowment (‘wealthy’ participants might slack off on the earnings task). Neither concern appears to hold. Figure 3 presents box plots of the performance on the slider task by each group. There are no statistically significant differences in slider performance between groups defined by the wage treatment ($p=0.1457$), the binary endowment treatment ($p=0.559$), or the endowment rank after the high, medium, or low return is calculated ($p=0.5774$ in a Chi Sq test).

The final core treatment variable is the information treatment, where participants see where they stand in both the earnings and endowment distributions. This is a simple dummy variable, which we will interact with the various earnings and endowment variables in the following analyses.

In some of the following empirical analyses we include session fixed effects (we have sixteen sessions with an average of 20.4 participants each, a minimum of a seventeen, a maximum of twenty-nine, and a standard deviation of 2.7). We also include an array of control variables in a number of the analyses - gender, age, income, university attendance, employment status, and political party preference. Balance statistics for all three treatments for these controls can be seen in the appendix. Our sample is sixty percent female, seventy-percent graduates, relatively youthful, and more supportive of the Labour Party and Liberal Democrats compared to the rest of the country. Just over a third of our participants were students.

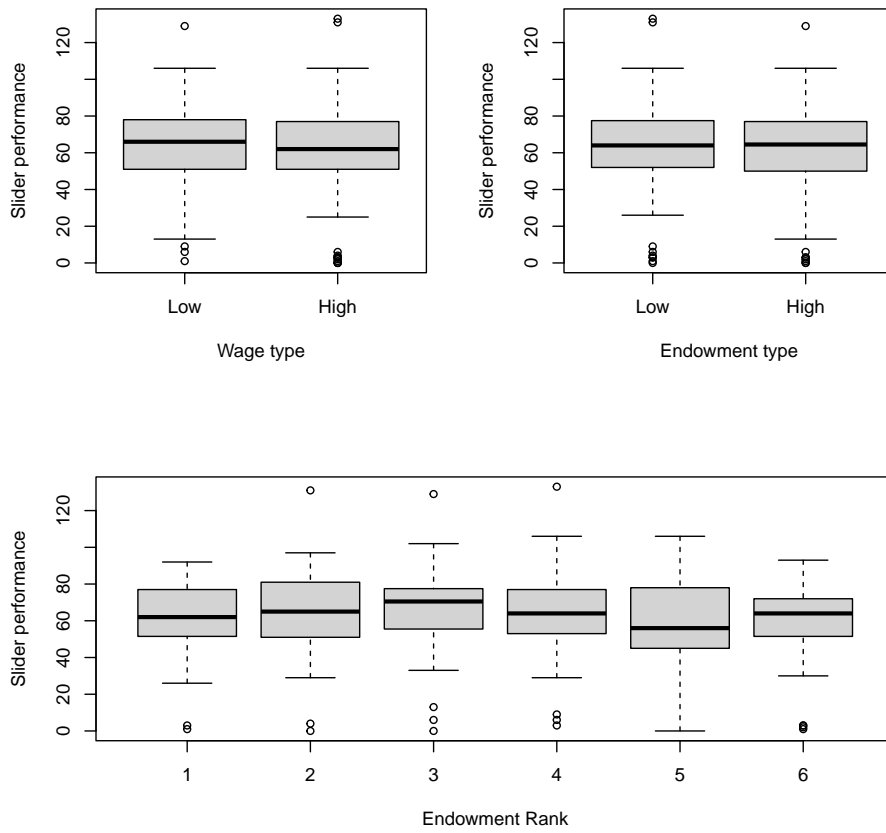


Figure 3: The effects of wage treatment (top left plot) and endowment treatment (top right) on slider performance. The effect of endowment rank on slider performances (bottom plot). The bars indicate 95 percent standard errors.

Earnings Effect

We begin by analyzing the direct effect of exogenously receiving a higher wage rate on preferences over income taxation (taxation on earnings from the slider task). Recall that the participants' final amount of earnings was a product of their randomized wage rate and their tertile of performance on the slide task. Figure 4 displays the average chosen income tax rate.

In the top panel we see a sizable and statistically significant difference between those who randomly received the high versus the low wage rate. Participants receiving the low wage had an income tax preference of just over forty percent, whereas those receiving the high wage had an income tax preference of just over twenty-five percent. The bottom panel breaks the participants out by slider performance *and* wage rate. We see that within each performance group, those receiving the higher wage chose higher tax rates. By contrast the effect of performance at the slider task is only noticeable for the high performers, who choose substantially lower tax rates than lower or middling performers, regardless of wage rate. At the extreme, high performers receiving the high wage averaged an income tax preference of just over fifteen percent.

Table 1 provides linear regression estimates of the effect of different wages and slider performance on this income tax preferences. The first three models include only the wage and performance variables and thus comparable with the previous figure. Model 1 estimates the impact of the randomly assigned higher wage to be a preferred income tax rate around fifteen percent points lower (with a standard error of just under three percent points). Model 2 uses the 'slider rank' variable - the six point scale that codes the various possible earnings from 5 ECU to 26 ECU. Here we see that a shift of one point up this scale is associated with around a six point decline in income tax rate preferences - *in extremis*, it predicts moving from the lowest to highest group lowers income tax preferences by around thirty percent points - consistent with Figure 4. Model 3 splits out wages from performance and we see that both the wage rate and the high performing group stand out - with a similar effect in magnitude for either category.

Models 4 through 6 repeat the same analyses but with a panoply of controls, including session fixed effects and personal characteristics such as gender, age, income, education, and political preference. The coefficients remain very similar in size, suggesting the randomization process was effective.

An important further finding from Table 1 is that the endowment rank (again a six point scale that covers endowments after investment from 5 ECU to 26 ECU, measuring the participant's final pre-tax endowment amount) has a minimal or nil effect on income tax preferences. It is insignificant in Model 4 and only significant at the ten percent level

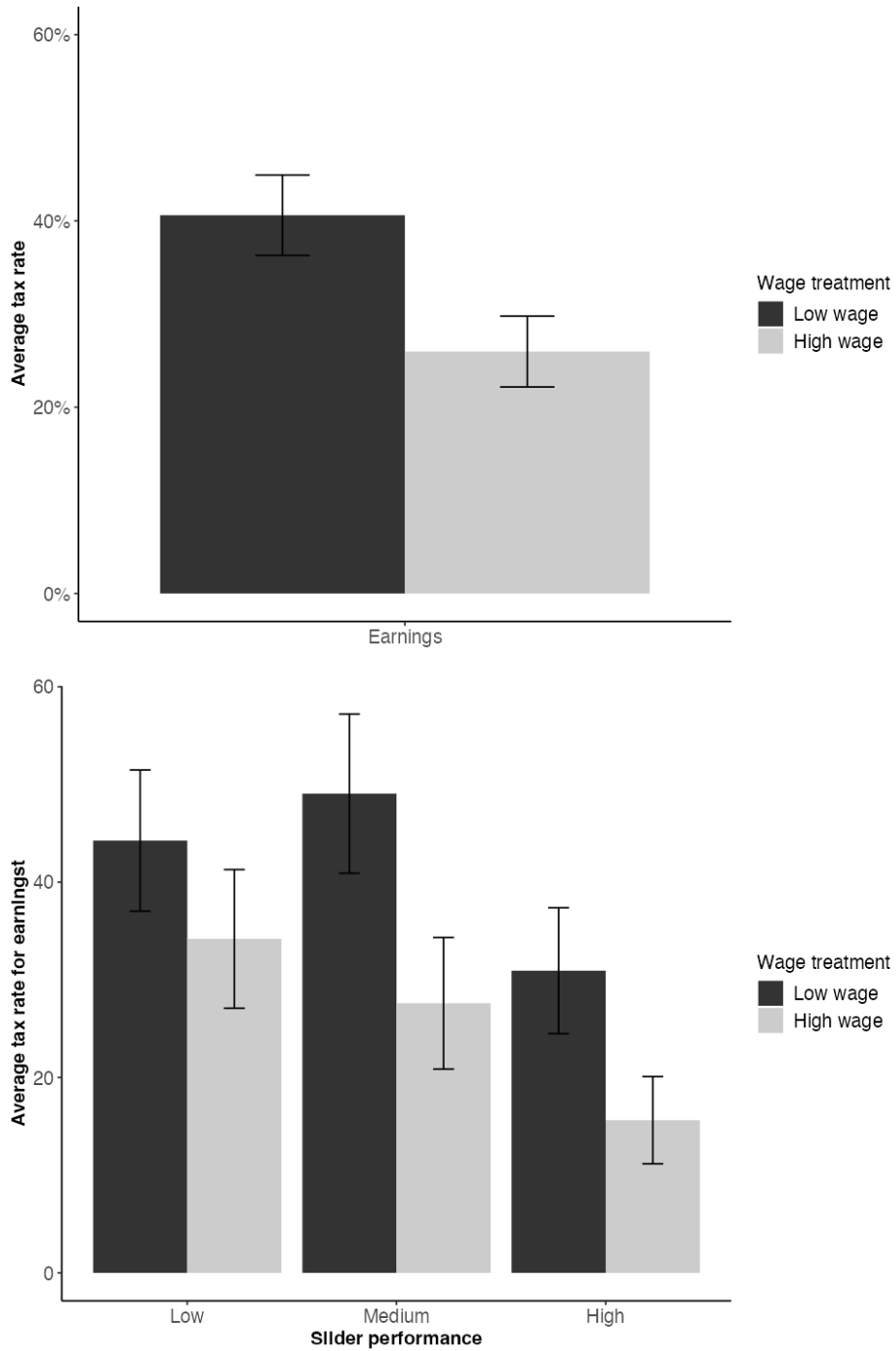


Figure 4: The effect of the wage treatment on preferences for taxes on the slider task for all subjects (top plot) and for subjects with different slider performances (bottom plot). The bars indicate 95 percent standard errors.

in Models 5 and 6, where it is around a quarter of the magnitude of the earnings ranking. While we cannot completely rule out a cross-bleeding of wealth outcomes to income taxation preferences, it appears fairly minimal in scope.

Endowment Effect

We now turn to the Endowment Effect - the impacted of the invested endowment on wealth tax preferences. Figure 5 shows the wealth tax preferences first by the six point endowment rank scale (where 1 is given for people whose final invested endowment was worth 5 ECU and 6 is given to those for who it was worth 26 ECU), and then by the endowment treatment (high or low) and endowment return (low, middling, or high).

The figures show an interesting bifurcation - the three groups whose final endowments were highest all have very similar average wealth tax preferences of around thirty percent. By contrast, those with the three lowest final endowments have much higher average wealth tax preferences - around fifty percent - again all similar to one another.

The bottom panel shows that the split is most pronounced for people who had a middling investment return - those with high initial endowments had wealth tax preferences about twenty percent points lower than those with low initial endowments. However, participants whose endowment had declined when invested all had high wealth tax preferences and those whose endowment had jumped sharply (up by 86 percent) had uniformly low wealth tax preferences. This suggests that the more extreme investment cases (which were also randomly assigned) drove a reaction that was focused on the *dynamics* of investment change as opposed to initial starting points, which only mattered for those with moderate investment returns.

The final noteworthy aspect is that wealth tax preferences are slightly higher than income tax preferences, averaging just under forty percent, as opposed to thirty-three percent. Although the standard deviations of wealth and income taxation are similar in magnitude (29.4 to 27.4) the average tax preference of the highest slider earners (around fifteen percent) is dramatically lower than the average tax preferences of the highest endowment recipients (around thirty percent). This may reflect participants treating high earnings as distinct in some non-material fashion from high endowments - a force we will see reflected in the following section on the information treatment.

Table 2 provides a series of linear regressions, similar in structure to Table 1, for wealth taxation preferences. We begin with the high initial endowment variable in Model 1, which has only a borderline statistically significant negative impact on wealth taxation preferences (around five percent points). Recall that the initial endowment is then multiplied by an investment return. Model 2 includes the initial endowment and investment returns separately

	Tax rate on earnings from the slider task					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
High wage	14.64 (2.93)		15.72 (2.84)	15.20 (2.94)		16.14 (2.85)
Slider rank		5.95 (0.85)			6.05 (0.89)	
Slider perf:Medium			1.26 (3.50)			0.29 (3.67)
Slider perf:High			15.99 (3.48)			16.03 (3.89)
Endowment rank				1.36 (0.87)	1.45 (0.84)	1.57 (0.84)
Information treatment				1.57 (3.01)	1.01 (2.93)	0.92 (2.91)
Constant	40.61 (2.08)	54.48 (3.34)	47.11 (2.89)	43.83 (9.48)	65.11 (9.95)	56.44 (9.87)
Session FE	No	No	No	Yes	Yes	Yes
Personal Controls	No	No	No	Yes	Yes	Yes
R ²	0.07	0.13	0.14	0.18	0.23	0.25
Adj. R ²	0.07	0.13	0.13	0.10	0.15	0.16
Num. obs.	327	327	327	327	327	327

$p < 0.01$; $p < 0.05$; $p < 0.1$

Table 1: Earnings effect on slider task preferred tax rates. Personal controls include female, age, university graduate, income, and party identification. Reference category for slider performance is low performance.

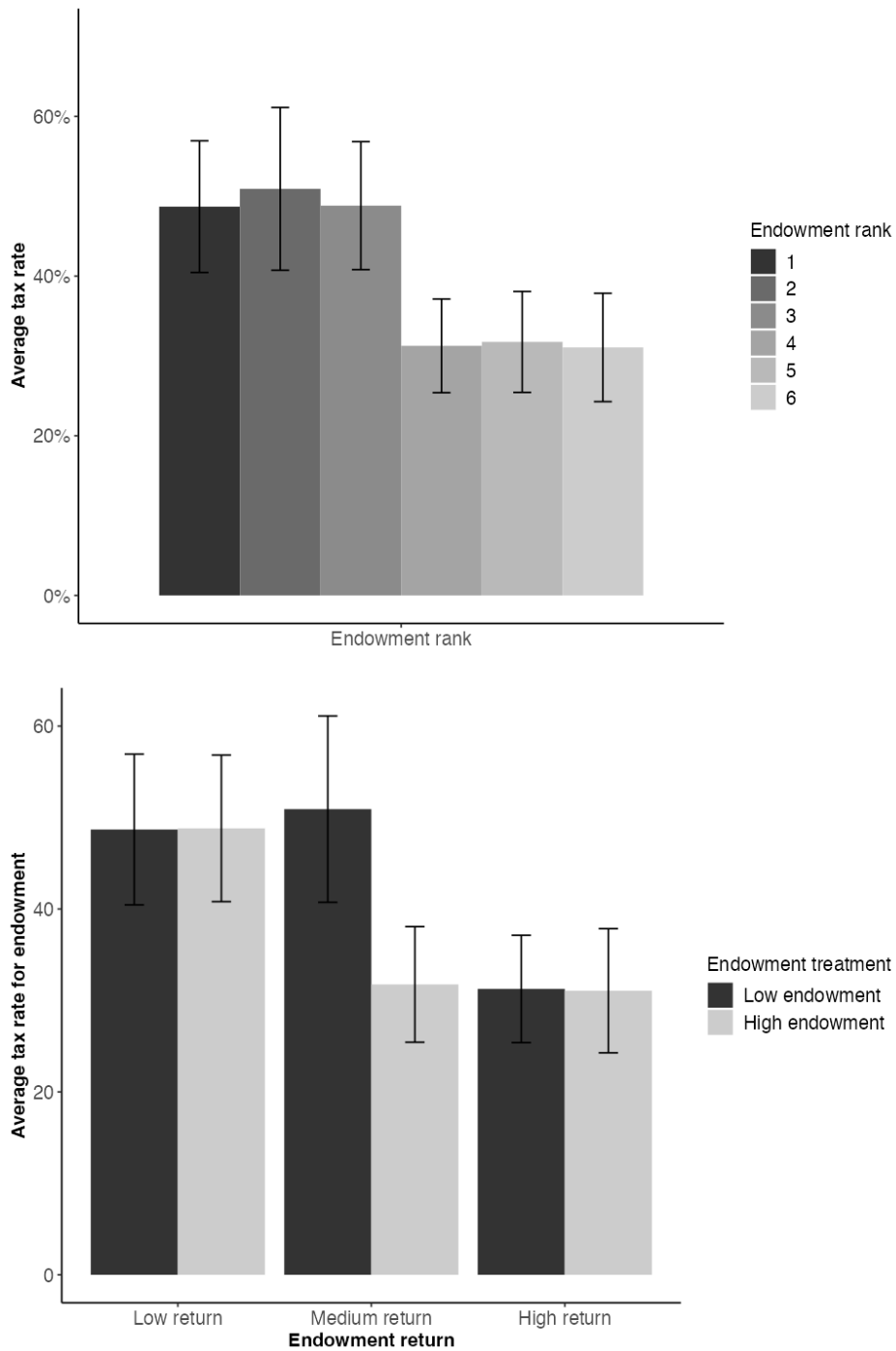


Figure 5: The effect of the endowment rank on endowment tax preferences (top plot). The effect of endowment type and endowment return on endowment tax preferences (bottom plot). The bars indicate 95 percent standard errors.

	Tax rate on endowments					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
High endowment	5.79 (3.25)	5.34 (3.16)		4.83 (3.29)	4.50 (3.19)	
Endowment rank			4.50 (0.90)			4.54 (0.93)
Endowment return:Medium		8.40 (3.99)			10.83 (4.13)	
Endowment return:High		17.40 (3.72)			18.91 (3.81)	
Information treatment				0.44 (3.33)	1.61 (3.22)	1.88 (3.23)
Slider rank				0.94 (1.02)	0.83 (0.98)	0.83 (0.98)
Constant	42.85 (2.36)	51.36 (3.07)	55.98 (3.60)	64.49 (11.03)	72.83 (10.76)	77.45 (10.96)
Session FE	No	No	No	Yes	Yes	Yes
Personal Controls	No	No	No	Yes	Yes	Yes
R ²	0.01	0.07	0.07	0.13	0.20	0.19
Adj. R ²	0.01	0.06	0.07	0.04	0.11	0.10
Num. obs.	327	327	327	327	327	327

$p < 0.01$; $p < 0.05$; $p < 0.1$

Table 2: Endowment effect on endowment preferred tax rates. Personal controls include female, age, university graduate, income, and party identification. Reference category for endowment type is low endowment, for endowment return is low return.

and we see much stronger evidence that returns drive preferences, with high returns recipients supporting tax rates seventeen points lower than the low (indeed negative) returns recipients. When we combine the initial endowment and its invested return in the endowment rank variable in Model 3 - which most closely reflects their final pre-tax endowment - we see a one point shift on the ranking associated with a 4.5 percent point drop in wealth taxation preferences. This is very similar to, though slightly smaller than, the effects of slider rank we saw for income taxation.

Models 4 through 6 include session dummies and controls and have broadly consistent findings, though the initial endowment loses significance. Importantly, we see that slider-task rank (i.e. final earnings) has no relationship to wealth tax preferences. We do not see any bleeding over of income into views about wealth.

Information Effect

We now turn to whether providing extra information about where people stood in the specific income and wealth distributions (as opposed to just the overall distribution of both) affects the way that slider earnings or endowments translate into income and wealth tax preferences. Recall the two Information Effects in the theoretical model - in both cases, more information about relative position should heighten redistributive preferences, with people higher up the respective scale becoming more opposed to taxation and those lower down the scale becoming more supportive. To cut to the chase, we find strong support for this conjecture in the case of earnings but not so, and in fact the opposite, in the case of endowments.

Figure 6's top panel shows income tax preferences for each group ranked by their slider earnings (combining wage and performance) and split by whether they received the information treatment. There is a broad pattern that redistributive preferences appear to be intensified by information. Groups five and six, in particular have substantially lower tax preferences when they receive the information treatment, as predicted. Higher slider earners who know that they are the top of the slider distribution (as opposed to just doing well in the overall distribution) react more strongly. There is more limited evidence of this at the lower end of the earnings distribution, with group 2 seeing a reverse pattern - information receivers being somewhat more pro-taxation - but nothing in group 1.

The bottom panel of Figure 6 shows no such pattern. If anything it is opposite. There is a clear downward gradient for the control group who only see the overall distribution of income plus wealth. But the treated group who know where they stand in the wealth distribution have a weaker gradient and in group 6 - the most lucky of all - the treated seem to have higher tax preferences. Clearly information does not work in the same way for wealth as for income.

We can tease this out more in Table 3. Here we repeat Table 1 but add in the interaction with the information treatment. We see in Models 1, 2 and 3 that those who received the high wage treatment and the information treatment have sharply lower tax preferences. Model 3 clarifies that this appears driven by the wage assignment rather than the performance skills per se. The results are consistent but weaker once we control for sessions and participant characteristics in Models 4 through 6. Using Model 4 we can see in Figure 7 that high wage receivers who also receive the information treatment shift from having ten percent lower tax preferences than their low wage counterparts to twenty percent lower. Broadly we find considerable evidence for Information Effect I.

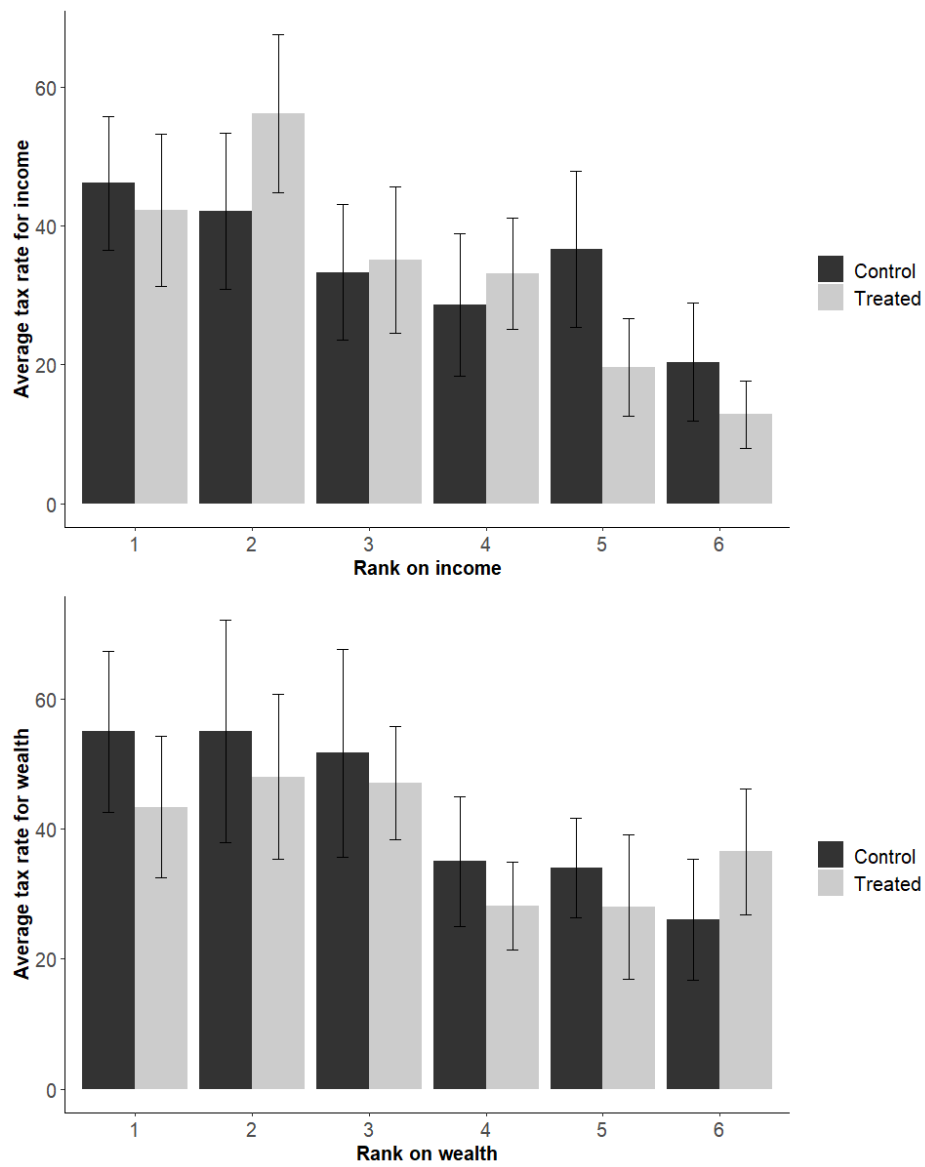


Figure 6: The effect of the information treatment on preferences for income taxes (top plot) and wealth taxes (bottom plot). The bars indicate 95 percent standard errors.

	Tax rate on earnings from the slider task					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Information treatment	4.36 (4.13)	10.21 (6.68)	5.40 (5.78)	3.61 (4.15)	7.32 (6.83)	4.50 (5.90)
High wage	7.10 (4.21)		8.88 (4.11)	9.69 (4.23)		11.41 (4.12)
High wage X Info treatment	14.18 (5.83)		12.89 (5.68)	10.55 (5.84)		9.17 (5.69)
Slider rank		4.06 (1.25)			4.79 (1.29)	
Endowment rank				1.30 (0.86)	1.46 (0.84)	1.53 (0.84)
Slider perf:Medium			0.19 (4.93)			1.88 (5.18)
Slider perf:High			15.31 (5.07)			16.44 (5.38)
Slider rank X Info treatment		3.39 (1.70)			2.34 (1.73)	
Slider perf:Medium X Info treatment			1.72 (6.98)			3.89 (7.22)
Slider perf:High X Info treatment			0.40 (6.99)			1.12 (7.17)
Constant	38.43 (2.92)	48.98 (4.76)	44.16 (4.08)	40.96 (9.57)	60.98 (10.40)	52.41 (10.35)
Session FE	No	No	No	Yes	Yes	Yes
Personal Controls	No	No	No	Yes	Yes	Yes
R ²	0.09	0.14	0.16	0.19	0.23	0.25
Adj. R ²	0.08	0.14	0.14	0.11	0.15	0.16
Num. obs.	327	327	327	327	327	327

$p < 0.01$; $p < 0.05$; $p < 0.1$

Table 3: Information effect on slider task preferred tax rates. Personal controls include female, age, university graduate, income, and party identification.

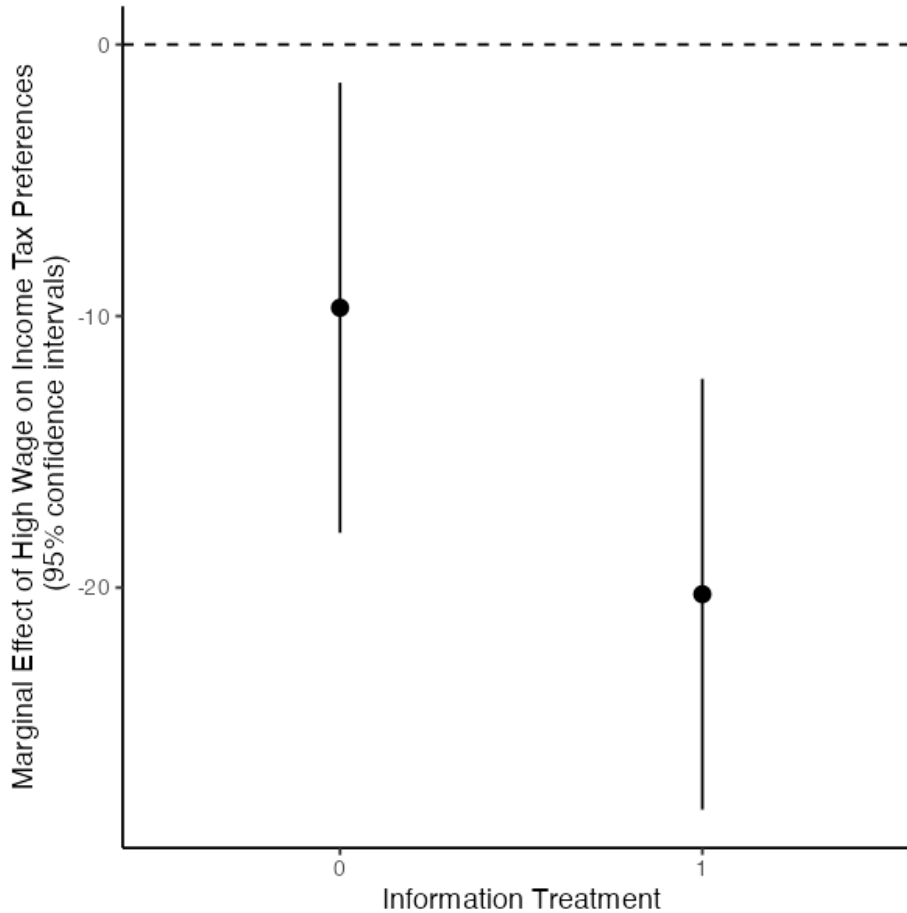


Figure 7: Marginal Effects of the Wage Assignment on Income Tax Preferences in the Control and Information Treatment Groups (Model 4)

When we look at Information Effect II - for wealth endowments - we see the reverse pattern. Table 4 shows that the interaction between endowment rank and the information treatment is weakly positive, albeit at low levels of statistical significance. Figure 8 shows that the initial endowment has a negative impact on wealth tax preferences but *only* among the control group. For those who knew where they ended up in the wealth distribution, initial wealth has no impact on wealth tax preferences at all. Our expectations for Information Effect II find no empirical support and perhaps the reverse pattern - when people know their overall resources come from wealth in particular, they are less opposed to taxing it!

	Tax rate on endowment					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Information treatment	8.38 (4.73)	8.38 (4.59)	15.05 (7.23)	5.86 (4.85)	5.85 (4.68)	9.44 (7.61)
High endowment	12.22 (4.72)	11.00 (4.62)		10.16 (4.78)	8.74 (4.66)	
Return: Medium		7.96 (4.03)			10.20 (4.16)	
Return: High		17.24 (3.72)			18.60 (3.81)	
Endowment rank			6.25 (1.29)			5.60 (1.34)
Slider rank				0.82 (1.02)	0.73 (0.99)	0.81 (0.98)
High End. X Info treatment	11.98 (6.50)	10.38 (6.36)		10.23 (6.66)	8.06 (6.48)	
End. rank X Info treatment			3.27 (1.80)			2.09 (1.90)
Constant	47.49 (3.52)	55.83 (3.98)	64.28 (5.36)	67.04 (11.13)	74.68 (10.85)	80.88 (11.39)
Session FE	No	No	No	Yes	Yes	Yes
Personal Controls	No	No	No	Yes	Yes	Yes
R ²	0.02	0.08	0.08	0.14	0.20	0.19
Adj. R ²	0.01	0.07	0.08	0.04	0.11	0.10
Num. obs.	327	327	327	327	327	327

$p < 0.01$; $p < 0.05$; $p < 0.1$

Table 4: Information effect on endowment preferred tax rates. Personal controls include female, age, university graduate, income, and party identification.

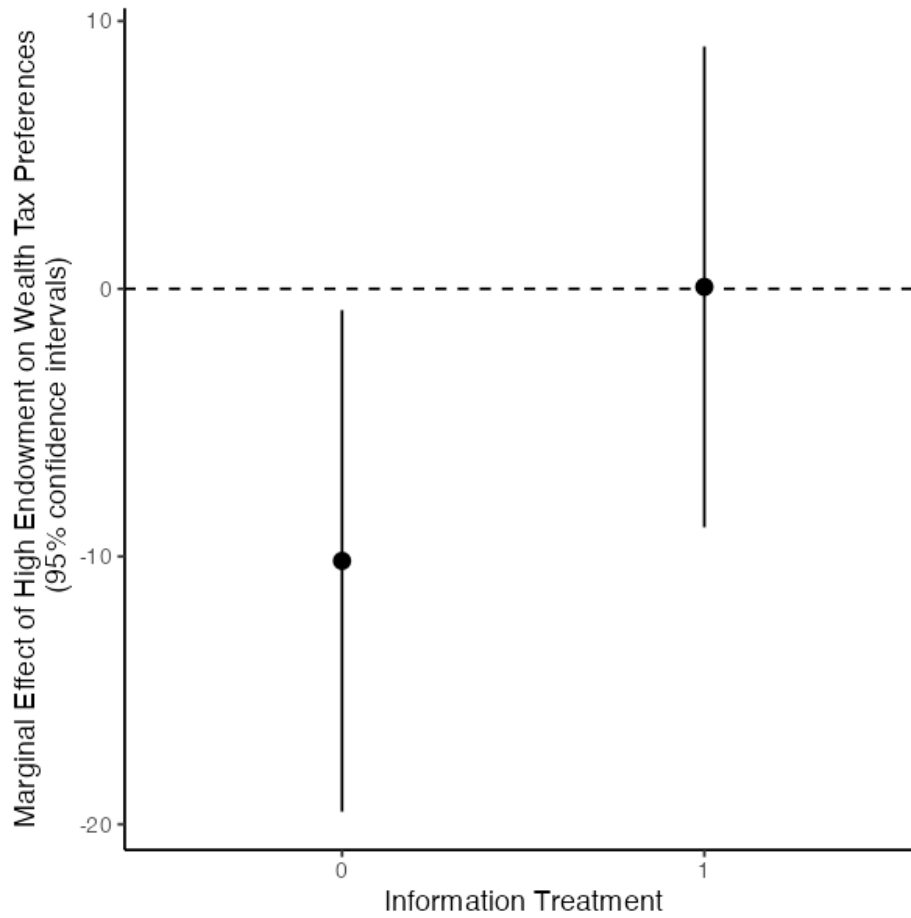


Figure 8: Marginal Effects of the High Endowment on Wealth Tax Preferences in the Control and Information Treatment Groups (Model 4)

6 Conclusion

HERE IS WHERE A CONCLUSION SHALL APPEAR

References

- Ansell, Ben W. 2019. "The politics of housing." *Annual review of political science* 22:165–185.
- Pfeffer, Fabian T and Nora Waitkus. 2021. "The wealth inequality of nations." *American Sociological Review* 86(4):567–602.

A Appendix

Table A1: Information Treatment Balance Test

		0 (N=156)		1 (N=171)		Diff. in Means	Std. Err.
		Mean	Std. Dev.	Mean	Std. Dev.		
female		0.6	0.5	0.6	0.5	-0.1	0.1
age		32.2	13.3	32.5	12.8	0.2	1.4
university		0.7	0.5	0.7	0.5	0.0	0.1
self.identification		5.4	1.8	5.6	1.9	0.2	0.2
		N	%	N	%		
income	Less than £10k	18	11.5	20	11.7		
	£10-25k	35	22.4	44	25.7		
	£25-50k	45	28.8	48	28.1		
	£50-100k	48	30.8	43	25.1		
	More than £100k	10	6.4	16	9.4		
employment	Full Time	40	25.6	43	25.1		
	Non-Employed	2	1.3	7	4.1		
	Part time	20	12.8	20	11.7		
	Retired	5	3.2	7	4.1		
	Self Employed	12	7.7	13	7.6		
	Student	59	37.8	67	39.2		
	Unemployed	18	11.5	14	8.2		
party	Labour	61	39.1	59	34.5		
	Brexit Party	0	0.0	3	1.8		
	Conservative	28	17.9	14	8.2		
	Green	24	15.4	28	16.4		
	Liberal Democrat	27	17.3	38	22.2		
	Other	13	8.3	29	17.0		
	SNP	3	1.9	0	0.0		

Table A2: Wage Treatment Balance Test

		1 (N=162)		2 (N=165)		Diff. in Means	Std. Err.
		Mean	Std. Dev.	Mean	Std. Dev.		
female		0.6	0.5	0.6	0.5	0.0	0.1
age		32.2	12.9	32.6	13.2	0.4	1.4
university		0.6	0.5	0.7	0.5	0.0	0.1
self.identification		5.6	1.8	5.5	2.0	-0.1	0.2
		N	%	N	%		
income	Less than £10k	20	12.3	18	10.9		
	£10-25k	36	22.2	43	26.1		
	£25-50k	43	26.5	50	30.3		
	£50-100k	50	30.9	41	24.8		
	More than £100k	13	8.0	13	7.9		
employment	Full Time	44	27.2	39	23.6		
	Non-Employed	3	1.9	6	3.6		
	Part time	24	14.8	16	9.7		
	Retired	4	2.5	8	4.8		
	Self Employed	15	9.3	10	6.1		
	Student	57	35.2	69	41.8		
	Unemployed	15	9.3	17	10.3		
party	Labour	65	40.1	55	33.3		
	Brexit Party	0	0.0	3	1.8		
	Conservative	22	13.6	20	12.1		
	Green	26	16.0	26	15.8		
	Liberal Democrat	30	18.5	35	21.2		
	Other	19	11.7	23	13.9		
	SNP	0	0.0	3	1.8		

Table A3: Endowment Treatment Balance Test

		L (N=155)		H (N=172)		Diff. in Means	Std. Err.
		Mean	Std. Dev.	Mean	Std. Dev.		
female		0.6	0.5	0.6	0.5	0.1	0.1
age		31.9	12.4	32.8	13.6	0.8	1.4
university		0.7	0.5	0.6	0.5	0.0	0.1
self.identification		5.3	1.9	5.7	1.8	0.3	0.2
		N	%	N	%		
income	Less than £10k	16	10.3	22	12.8		
	£10-25k	41	26.5	38	22.1		
	£25-50k	46	29.7	47	27.3		
	£50-100k	43	27.7	48	27.9		
	More than £100k	9	5.8	17	9.9		
employment	Full Time	36	23.2	47	27.3		
	Non-Employed	3	1.9	6	3.5		
	Part time	23	14.8	17	9.9		
	Retired	6	3.9	6	3.5		
	Self Employed	12	7.7	13	7.6		
	Student	60	38.7	66	38.4		
	Unemployed	15	9.7	17	9.9		
party	Labour	49	31.6	71	41.3		
	Brexit Party	2	1.3	1	0.6		
	Conservative	24	15.5	18	10.5		
	Green	30	19.4	22	12.8		
	Liberal Democrat	29	18.7	36	20.9		
	Other	19	12.3	23	13.4		
	SNP	2	1.3	1	0.6		

Welcome

Please enter your participant label.

Next

Figure A1: Screenshot 1



Participant Information Sheet: Online Lab Experiments

1. Study title

The Politics of Wealth Inequality and Mobility in the Twenty-First Century

2. Background and aims of the study

This study intends on examining attitudes towards endowments, earning, and redistribution. It is being led by Principal Investigator Professor Ben Ansell of Nuffield College and the Department of Politics and International Relations at the University of Oxford (ben.ansell@politics.ox.ac.uk)

3. Why have I been invited to take part?

You have been invited to take part as a member of CESS's online pool of social science laboratory participants.

4. Do I have to take part?

You may decide at any stage if you do not wish to participate in this experiment, by closing your browser, but you will only receive your completion fee on completion of the experiment.

5. What will happen in the study?

If you are happy to take part in the study, you will be asked to sign a consent form. You will receive an email providing information about an endowment of money which will be invested for you, with the possibility of both higher and lower final money than the initial endowment. On beginning the online lab experiment, you will be asked to use a computer and given the opportunity to earn more money by completing a series of computer exercises. On completing these exercises you and several other participants will use your computer anonymously to vote over a series of proposed redistributions of the money you have been granted or earned. The experiment will all take place online and should last for less than one hour. At the end of the session you will receive whatever money has been decided on in the experiment as well as your completion fee of £3.

6. Are there any potential risks in taking part?

There are no physical risks to taking part but should you feel uncomfortable at any point you may leave voluntarily, though the completion fee will only be paid on completion of the experiment.

7. What happens to the research data provided?

Your participation in the experiment is entirely confidential. The data stored in terms of experiment outcomes will be detached from your participant number and will be destroyed three years after the publication of results from the project.

8. Will the research be published?

Research using the results of the experiment will be published in peer-reviewed journals and book manuscripts. No identifying information will be used in the publications.

9. Who has reviewed this project?

This project has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee.

10. Who do I contact if I have a concern about the study or I wish to complain?

If you have a concern about any aspect of this project, please speak to the Principal Investigator Professor Ben Ansell who will do his best to answer your query (01865 278610 or ben.ansell@politics.ox.ac.uk). He will acknowledge your concern within 10 working days and give you an indication of how he intends to deal with it. If you remain unhappy or wish to make a formal complaint, please contact the chair of the Research Ethics Committee at the University of Oxford who will seek to resolve the matter in a reasonably expeditious manner:

Chair, **Social Sciences & Humanities Inter-Divisional Research Ethics Committee**; Email: ethics@socsci.ox.ac.uk; Address: Research Services, University of Oxford, Wellington Square, Oxford OX1 2JD

Next



Professor Ben Ansell
Professor of Comparative Democratic Institutions
01865 278610
ben.ansell@politics.ox.ac.uk

PARTICIPANT CONSENT FORM

The Politics of Wealth Inequality and Mobility in the Twenty-First Century

Purpose of Study: This study intends on examining attitudes towards endowments, earning, and redistribution.

- Please tick each box*
- | | | |
|---|--|--------------------------|
| 1 | I confirm that I have read and understand the information sheet for the above study. | <input type="checkbox"/> |
| 2 | I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason and without any adverse consequences or academic penalty, although I will not receive the completion payment if I do so. I acknowledge that I will not be able to withdraw my responses after completing the survey. | <input type="checkbox"/> |
| 3 | I understand that research data collected during the study may be looked at by designated individuals from the University of Oxford where it is relevant to my taking part in this study. I give permission for these individuals to access my data. | <input type="checkbox"/> |
| 4 | I understand that this project has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee. | <input type="checkbox"/> |
| 5 | I understand who will have access to personal data provided, how the data will be stored and what will happen to the data at the end of the project. | <input type="checkbox"/> |
| 6 | I understand how this research will be written up and published. | <input type="checkbox"/> |
| 7 | I understand how to raise a concern or make a complaint. | <input type="checkbox"/> |
| 8 | I agree to take part in the above study. | <input type="checkbox"/> |
| 9 | I agree for research data collected in this study to be given to researchers, including those working outside of the EU, to be used in other research studies. I understand that any data that leave the research group will have personal identifiers removed so that I cannot be identified. | <input type="checkbox"/> |

Please click the following button after you have ticked each box to confirm you consent to the experiment.

Please close the browser if you do not wish to continue.

YES I AGREE

Figure A3: Screenshot 3 - Consent form

Information on Experiment

Time left to complete this page: **2:21**

This is an experiment in decision-making. In addition to a £3 participation fee, you will be paid any additional money you accumulate during the experiment at the conclusion of today's session. All earnings are denominated in an artificial currency called experimental currency units (ECU). Upon completion of the experiment, your earnings will be converted to pounds at the rate of 3 ECU = £1.

You were granted an endowment of **14** ECU when signing up to this experiment. After being invested your endowment is now worth **16** ECU.

You can now add to this endowment by earning ECU in a task involving moving sliders on a computer screen. You will be ranked and placed in one of three equal-sized categories of performance: low, medium, and high. In the event of a tie, rank will be randomly determined.

Your earnings from the task will be calculated as your wage rate of **2** multiplied by your performance category (low/middle/high receive 5/8/13 ECU respectively).

At the end of the task, you and the other participants will then vote on how to allocate your resources from (a) the endowment and (b) earnings from the task. This will produce your final take-home payment in ECUs.

Finally, you will answer a short series of survey questions.

[Next](#)

Figure A4: Screenshot 4 - General information

Description of Endowment

Time left to complete this page: 1:26

You were granted an endowment of 14 ECU when signing up to this experiment. After being invested your endowment is now worth 16 ECU.

Your endowment 16 ECU will not be affected by your performance in the slider task.

After the task you and the other participants will choose a tax rate on wealth from endowments. Proceeds from the tax will be allocated equally across all participants.

Next

Figure A5: Screenshot 5 - Information on the endowment

Description of Earnings Task

Time left to complete this page: 1:26

This experiment will consist of 5 rounds and a practice round. In each of the 5 rounds you will undertake a task to earn additional ECU. Each round will last 60 seconds with 15 second breaks in between.

The task you do may change during the experiment, but you will start with the Slider Task. In the Slider Task you will be shown a screen with 60 sliders. An example slider appears on this screen. Each slider is initially positioned at random position between 0 and 100. The computer will tell you your target for each slider. You can use the mouse in any way you like to move each slider. You can readjust the position of each slider as many times as you wish. Your score in the task will depend on how many sliders you correctly position, matching their target.

Your final earnings depend on your average ranking across all five rounds compared to the other participants (low / middle / high). Your earnings are calculated as your wage rate of 2 multiplied by 5 ECU if in the low group, 8 ECU if in the middle group, and 13 ECU if in the high group. In the event of a tie, rank will be randomly determined.

After the task you and the other participants will choose a tax rate on earnings from the slider task to allocate your resources. Proceeds from the tax will be allocated equally across all participants.

Next

Figure A6: Screenshot 6 - Information on the earnings task

Comprehension Check Questions

Time left to complete this page: 1:54

To make sure that you understand the instructions please take a moment to answer the following questions. Once you have responded correctly to all the questions you will begin a practice round.

1. At the beginning of the experiment you received an endowment that had been invested for you. What is the size of your endowment after investment? (in ECU)?

2. What is your wage rate (in ECU) in the earnings task?

3. What will you be voting over at the end of the experiment?

- Taxes on invested endowment only
- Taxes on earnings from slider task only
- Taxes on invested endowment & earnings from slider task

Next

Figure A7: Screenshot 7 - Comprehension check

Practice Round

Time left to complete this page: **0:43**

You will now be given 60 seconds to complete a practice round of this task. This practice round will not count towards your earnings today. You should use it as an opportunity to gain familiarity with the task. Try to place as many sliders at the target value as possible. After the practice round we will cover the remaining instructions.

Please hit the button below when you are ready to begin the practice round

Next

Figure A8: Screenshot 8 - Practice round

Practice Round

Time left to complete this page: 0:53



Figure A9: Screenshot 9 - Practice round

Practice Round Results

Time left to complete this page: 0:11

You successfully placed 5 sliders
You are about to begin round 1.
The next round will begin in 15 seconds.

Figure A10: Screenshot 10 - Practice round results

Round 1

Time left to complete this page: 0:53

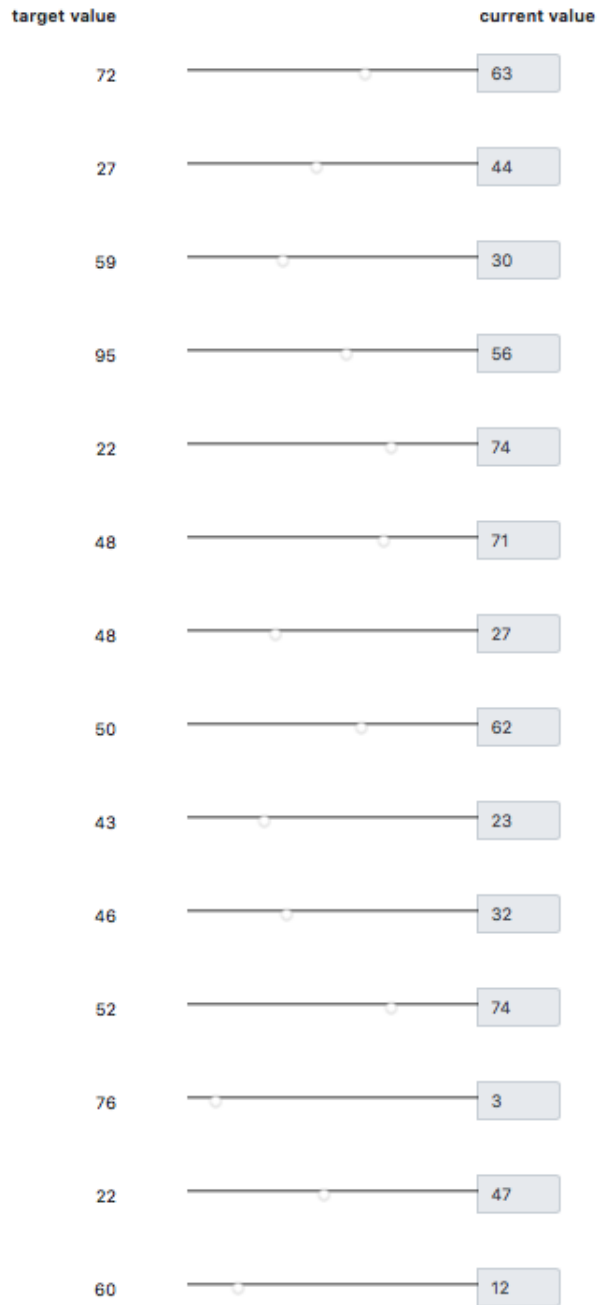


Figure A11: Screenshot 11- Round 1

Round 1 Results

Time left to complete this page: 0:12

You successfully placed 6 sliders
You are about to begin round 2.
The next round will begin in 15 seconds.

Figure A12: Screenshot 12 - Round 1 results

Slider Task Results

Time left to complete this page: 0:40

You successfully placed 13 sliders in total across the 5 rounds.
You earned 26 ECU from the slider task. Please hit the button below when you are ready to continue

Next

Figure A13: Screenshot 12 - Slider task results


End of Effort Task

You have completed the main part of the study.

Your invested endowment is worth 8 ECU. The figure below shows how your endowment compares to the potential endowments of other participants.

Lowest  Highest

Your earnings from the slide task were 16 ECU. The figure below shows how your earnings from the task compare to the potential earnings of other participants.

Lowest  Highest

Next

Figure A14: Screenshot 13 - Information treatment

End of Effort Task

You have completed the main part of the study.

Your invested endowment is worth 10 ECU. Your earnings from the slider task were 5 ECU. The figure below shows how your combined endowment and earnings from the task compare to the potential combined endowment and earnings of participants.

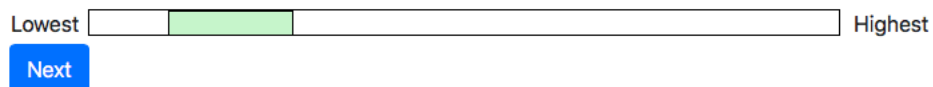


Figure A15: Screenshot 14- Control group

Voting Over Taxation

Time left to complete this page: 1:01

You now have the opportunity to vote on a WEALTH TAX applying to the invested endowment and an INCOME TAX applying to earnings from the slider task. You can choose any rate between 0 and 100 percent. The final tax rates chosen for the wealth tax and the income tax will be the average rates chosen across all participants. The proceeds of both wealth and income taxation will be distributed equally across all participants as a lump sum payment.

To understand how this works, imagine there are 3 individuals earning 8, 12, and 16 ECU respectively and a tax rate of 50%:

- The first participant would give up $8 \times 50\% = 4$ tokens, the second would give up $12 \times 50\% = 6$ tokens and the third would give up $16 \times 50\% = 8$ tokens for a total of $4+6+8 = 18$ tokens.
- These 18 tokens would then be divided equally among the 3 individuals providing them an additional $18/3 = 6$ tokens each.
- As a result, the first individual will end up with $8-4+6 = 10$ tokens, the second individual will end up with $12-6+6 = 12$ tokens and the final individual will end up with $16-8+6 = 14$ tokens.

Next

Figure A16: Screenshot 15 - Information on voting

Choose Your Tax Rates

Please now choose your preferred tax rates on income from the slider task and wealth from the invested endowment.

Please enter your preferred tax rate between 0% to 100% on wealth from endowments and investments:

Now please enter your preferred tax rate between 0% to 100% on earnings from the slider task:

Next

Figure A17: Screenshot 16 - Voting

Outcome and Final Earnings

The wealth tax on invested endowments is **33.33%**

The income tax on earnings from the slider task is **23.33%**

Your total after tax from this experiment is **31.81 ECU**, comprised of **8.22 ECU** from your invested endowment, and **23.59 ECU** from the slider task.

In Pounds, you earned a total of **£ 17.72** including the £5 showup fee

Your total is **£ 0.81 higher** than before taxation.

Your amount from the invested endowment is **£ 3.22 higher** than before taxation.

Your amount from the slider task is **£ 2.41 lower** than before taxation.

Next

Figure A18: Screenshot 17 - Outcome

End of Study

Thank you for participating in today's study.

To ensure your full understanding of the experiment, we will now describe how the experience may have differed for different subjects in today's session.

Prior to the session, each participant was assigned an endowment of 7 or 14 ECU at random, which was then invested. Thus, you were assigned one endowment but other participants in today's session may have had the same or a different endowment.

Similarly, half of the participants were randomly assigned a wage rate of 1 while the other half of the participants were assigned a wage rate of 2. Thus, you were assigned one wage rate but other participants in today's session may have had the same or a different rate.

Finally, after the slider task but before voting on tax rates, half of the participants saw information about where they ended up in both the distribution of endowments and the distribution of earnings from the slider task. The other half only saw where they ended up in the distribution of combined income from the endowments and earnings from the slider task. Thus, you were shown one type of information but other participants in today's session may have seen the same information or different information.

We sincerely thank you for contributing to the success of our research.

Your payment for today's experiment will be processed and paid through Paypal or Amazon (based on your preferences) and should arrive within two weeks. If you do not receive your compensation by that point or have any questions about today's study, please contact us at cess-online@nuffield.ox.ac.uk.

Figure A19: Screenshot 22 - End of study